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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,603	08/28/2001	Shunichi Ishikawa	019519-320	3289

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
1714	

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,603

Applicant(s)

ISHIKAWA ET AL.

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 3/1/04.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols et al. (U.S. 6,184,268) in view of Helber et al. (U.S. 6,093,510).

The rejection is adequately set forth in paragraph 3 of the office action mailed 9/30/03 and is incorporated here by reference.

4. Claims 2-3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols et al. (U.S. 6,184,268) in view of Idei et al. (U.S. 5,302,437) and Helber et al. (U.S. 6,093,510).

The rejection is adequately set forth in paragraph 4 of the office action mailed 9/30/03 and is incorporated here by reference.

5. Claims 1, 5, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helling et al. (U.S. 6,313,196) in view of Helber et al. (U.S. 6,093,510).

The rejection is adequately set forth in paragraph 5 of the office action mailed 9/30/03 and is incorporated here by reference.

6. Claims 2-3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helling et al. (U.S. 6,313,196) in view of Idei et al. (U.S. 5,302,437) and Helber et al. (U.S. 6,093,510).

The rejection is adequately set forth in paragraph 6 of the office action mailed 9/30/03 and is incorporated here by reference.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols et al. (U.S. 6,184,268) or Helling et al. (U.S. 6,313,196) either of which in view of Hasegawa et al. (U.S. 4,832,984) and Helber et al. (U.S. 6,093,510).

The rejection is adequately set forth in paragraph 7 of the office action mailed 9/30/03 and is incorporated here by reference.

Response to Arguments

8. Applicants arguments with respect to Evans et al. (U.S. 6,136,079) and Noro et al. (U.S. 2002/0046680) have been fully considered but they are moot in view of the discontinuation of the use of these references against the present claims.

9. Applicants' arguments filed 3/1/04 have been fully considered but, with the exception of arguments relating to Evans et al. and Noro et al., they are not persuasive.

Specifically, applicants argue that there is no motivation to combine either Nichols et al. or Helling et al. with Helber et al. given that while Helber et al. disclose that the dye J-aggregate can be used in ink jet system, the examiner has not shown that the prior art suggests desirability of modifying the ink of Nichols et al. or Helling to arrive at claimed invention. Applicants argue that there has been no evidence provided that shows that one of ordinary skill in the art would have expected the alleged modification to result in some advantage or benefit in the ink jet ink of Nichols et al. or Helling et al.

Nichols et al. disclose ink jet ink comprising 1-20% dye that has particle size of 0.001-2 μm and 0.1-5% latex that has average particle size of 0.05-0.5 μm while Helling et al. disclose ink jet ink comprising dye that has particle size of 10-100 nm and water-dispersible ionically modified polymer that has average particle size of, for instance, 60 nm.

However, there is no disclosure in either Nichols et al. or Helling et al. of dye J-aggregate as presently claimed. This is why either Nichols et al. or Helling et al. are used in combination with Helber et al., which disclose the use of dye J-aggregate identical to that presently claimed. It is the examiner's position that the combination is proper because not only do Helber et al. disclose that such dye is "especially useful" in ink jet applications (col.16, lines 60-64) or "useful" as dye material in ink jet system (col.21, lines 44-47), Helber et al. also provide motivation for using such dye. Specifically, Helber et al. disclose that the dye J-aggregate possess sharp cutting spectral features (col.6, lines 8-9), strong light absorbance (col.20, lines 40-43 and col.35, lines 49-54), does not migrate (i.e. ink would not bleed) (col.36, lines 56-59) and good resistance to heat and humidity (col.37, lines 49-51). Thus, the prior art does disclose the desirability of modifying the ink jet ink of either Nichols et al. or Helling et al. Further, given

that Helber et al. disclose that the dye J-aggregate is used in ink jet inks, one of skill in the art would expect that ink jet ink comprising such dye J-aggregate would possess the advantages described above.

Thus, given that Helber et al. explicitly disclose that the dye J-aggregate is used in ink jet ink and given that Helber et al. disclose motivation for using such dye, it would have been obvious for one of ordinary skill in the art to use such dye J-aggregate in the ink jet ink of either of Nichols et al. or Helling et al., and thereby arrive at the claimed invention.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yabuki et al. (U.S. 6,645,281) disclose ink jet ink comprising dye J-aggregate and polymer. However, there is no disclosure of the average particle size of the polymer and no disclosure that the dye J-aggregate changes in λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state as required in the present claims.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
5/12/04